

# Elina Charatsidou MSc

Physicist & Nuclear Engineer

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## EXPERIENCE

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### Workgroups Manager at the Ph.D. Chapter Board of Directors

Jul. 2022 – Present

KTH Royal Institute of Technology | Stockholm, Sweden

The workgroups manager is responsible for the coordination and communication of the working groups that might arise within the chapter. The workgroups manager represents the chapter at the Equality Committee at KTH, and coordinates communication between the board and the working groups.

### PAD Ph.D.

Jan. 2022 - Present

KTH Royal Institute of Technology | Stockholm, Sweden

Ph.D. Student Representative for the Department of Physics at KTH. Participating during department and division management meetings, as well as organize and participate in educational workshops and social events.

### Newsletter Editor

May 2020 - Present

KTH Royal Institute of Technology | Stockholm, Sweden

Editorial work for the newsletter of the School of Science, KTH. Performing interviews with university staff, students and alumni, planning monthly topics of discussion, writing and editing articles, formatting the appearance of the newsletters via web page design.

### Master Thesis

Jan. 2020 - June 2020

Westinghouse Electric Company | Västerås, Sweden

- Thesis Title: A machine learning approach to the nuclear fuel fabrication process.

#### Key Accomplishments:

- Innovative implementation of deep machine learning algorithms in the nuclear energy industry.
- Reducing human error during fabrication of nuclear fuel in the company.
- Increase fuel utilisation by optimising important parameters.

Link: <http://kth.diva-portal.org/smash/record.jsf?pid=diva2%3A1441542&dswid=-8415>

### International Student Ambassador & Mentor for students with disabilities

Sept 2018 - June 2020

KTH Royal Institute of Technology | Stockholm, Sweden

- Ambassador's duties: Providing support and information to international students interested in applying for master's studies at KTH. Mentor's duties: Mentoring students with special needs, by organizing their schedule, study plan, and extracurricular activities.

#### Key Accomplishments:

- Significantly increased student enrollment year-over-year from countries & universities that were visited by the ambassador for educational & informative purposes.
- Achieving to maintain a healthy relationship among the students with disabilities and their university environment, by schedule planning, often meetings and discussions.

### Library Assistant

Nov. 2016 - Dec. 2017

AUTh Aristotle University of Thessaloniki | Thessaloniki, Greece

Responsible for day-to-day library and help desk operations including student account openings, book lendings and returns, efficient sheft organisation, as well as technical support to staff, faculty, and 500+ students for book, software and accounts related issues.

#### Key Responsibilities:

- Managed software for book lending, returns, ordering and distributing to the students, as well as optimisation of library book storing.

## Translator

Oct. 2016 - Dec. 2016

AUTH Aristotle University of Thessaloniki | Thessaloniki, Greece

Translation of the manual of a photomultiplier, manufactured in Russia, for the Nuclear Physics and Elementary Particle Physics Department at AUTH from Russian to Greek & English.

### Key Responsibilities:

- Utilizing bilinguality to assist in correct translation of the user manual as well as ensuring proper use and storing of the equipment.

## Tutor

Oct. 2014 - Jan. 2017

Private Courses | Thessaloniki, Greece

Teaching Physics, Mathematics, Chemistry, and Biology to middle school and high school students.

### Key Accomplishments:

- Enhancing students' knowledge and assisting with homework tasks in physics, maths, chemistry & biology.
- Preparing senior high school students for the Greek national (pan-hellenic) exams, with outstanding results.

## EDUCATION

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### **Ph.D. Physics and Nuclear Engineering**

Doctoral Degree | KTH Royal Institute of Technology | Stockholm, Sweden

Jan. 2021 - Present

- Fabrication, Characterization, Degradation of Thermophysical Properties & Multi-scale simulations of UN fuel for LFR within the SUNRISE project (<https://www.reactor.sci.kth.se/sunrise/sunrise-1.999712>)

### **MSc Nuclear Energy Engineering**

Master Degree | KTH Royal Institute of Technology | Stockholm, Sweden

Aug. 2018 - June 2020

- 2-year master's program in Nuclear Energy Engineering
- 120 credits

### **BSc Physics**

Bachelor Degree | AUTH Aristotle University of Thessaloniki | Thessaloniki, Greece

Sept. 2013 - July 2017

- 4-year bachelor's degree in physics with a specialization in nuclear physics.
- GPA: 8.35/10.00

## ADDITIONAL EDUCATION & CONFERENCES

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### **Modeling, Experimentation & Validation, MeV Summer School 2022 on Accelerated Fuel Qualification**

Summer School | Oak Ridge National Laboratory (ORNL), Tennessee, USA

18 Jul. 2022 - 29 Jul. 2022

- Lectures from invited speakers on experimental design, light water reactor (LWR) sustainability, accident tolerant fuels (ATFs), nuclear fuel cycle, additive manufacturing, space technologies, advanced reactors and fusion.
- Group project and presentation on 'Correlation between seismic activity and damage to fuel cladding of ELSY lead-cooled fast reactors containing uranium nitride'.
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### **GeDiMIRT Gender Dimension in Physics and Math-Intensive Research and Teaching**

Conference | Lund, Sweden

21 Jun. 2022 - 23 Jun. 2022

- The conference was organized in the frame of the GENERA Network and was a starting point in tackling the challenge of integrating sex and gender analysis into STEM research and help defining a convincing approach to get into the mindset that a diversity and gender perspective must be present in these fields of science since teaching, defining research topics, performing research and its application are (wo)man-made.

### **TMS 2022 Annual Meeting & Exhibition, The Minerals, Metals & Materials Society**

Conference | Anaheim, California, USA

27 Feb. 2022 - 3 Mar. 2022

- Participation in a form of oral presentation on the subject of 'Thermal Conductivity Degradation by Solid Fission Products: Machine Learning Coupled with First Principles Model'.

## **Frederic Joliot / Otto Hahn Summer School on Nuclear Reactors, Physics, Fuels, and Systems KIT & CEA**

Summer School | Karlsruhe, Germany

21 Aug. 2019 - 31 Aug. 2019

- Introduction to current work conducted in the nuclear industry, existing and new applications of nuclear physics, and introduction to new reactor designs.
- Group assignments and projects to avoid excessive complexity in the nuclear industry.

## **2019 Elements of the Back end of the Nuclear Fuel Cycle: Geological Storage of Nuclear Spent Fuel**

Summer School | Oskarshamn, Sweden

8 June 2019 - 20 June 2019

- Joint course by the Royal Institute of Technology-KTH, Nova-Oskarshamn, SKB, the European EMINE program and INSPIRE cooperation.
- Group assignments and projects work on public acceptance, as well as permanent fuel repository.

## **28th Annual Symposium Hellenic Nuclear Physics Society, Aristotle University of Thessaloniki, Physics Department**

Conference | Thessaloniki, Greece

31 May 2019 - 1 June 2019

- Representative of the Nuclear Energy Engineering Master's Program at KTH. Presentation conducted regarding the above-mentioned program as well as the EMINE (European Master's in Nuclear Engineering) program.

## **CEA/INSTN - ISIS Reactor Training Course | Saclay, Paris, France**

4 Dec 2018 - 7 Dec 2018

- Representative of the Nuclear Energy Engineering Master's Program at KTH. Presentation conducted regarding the above-mentioned program as well as the EMINE (European Master's in Nuclear Engineering) program.
- Training Course in the ISIS reactor, for students from the Nuclear Energy Engineering Master's Program at KTH, within the course of Nuclear Reactor Physics.

## **11th Spring School 2018 Spring School | Borovets, Sofia, Bulgaria, JINR – Dubna, Russia**

15 May 2018 - 18 May 2018

- Participation in the 11th Spring School 2018 JINR conference related to Nuclear Physics developments, organized by scientists in Dubna, Russia.

## **10th Spring School 2018 Spring School | Borovets, Sofia, Bulgaria, JINR – Dubna, Russia**

16 May 2017 - 19 May 2017

- Participation in the 10th Spring School 2017 JINR conference related to Nuclear Physics developments, organized by scientists in Dubna, Russia.

## **SKILLS**

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### **Languages:**

Greek | Native | Proficient

Ukrainian | Basic

Swedish | Basic

Russian | Native | Proficient

German | Basic

English | Proficient

French | Basic

**Programming Languages:** Python | Expert, Machine Learning | Expert, VASP DFT | Intermediate, ATAT SQS | Intermediate, MCNP | Intermediate, Matlab/Simulink | Intermediate, Serpent | Intermediate, Apros | Basic, Mathematica | Basic, OriginLAB | Basic, MS Office | Expert, C | Basic

**Operational Systems:** Windows | Linux | iOS | Android | MacOS

## **CERTIFICATES**

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### **CPR Certificate**

Acquired 17 May 2022

- Trained and certified in CPR and first aid for infants, children, and adults.

### **Driving License**

27 Sept. 2017 - 27 Sept. 2032

- Category: B